

Case 3645***Orthezia characias* [Bosc d'Antic], 1784 (Insecta, Hemiptera, ORTHEZIIDAE): proposed validation of the generic and specific names as available**

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Abstract. The purpose of this application, under Articles 78.1 and 81.1 of the Code, is to conserve the established usage of the genus-group name *Orthezia* and species-group name *characias*, both with the author Bosc d'Antic (1784) and to maintain the latter as the type species of *Orthezia*. The original proposal of the name of this scale insect by Bosc d'Antic, intended to be done in the binominal fashion of Linnaeus, was actually done as a hyphenated uninominal originally spelled both as *d'Orthezia-Characias* and *Orthezia-Characias*. It is proposed that this be interpreted as a generic name, whereby universal usage of the subsequent spelling *Orthezia* since at least 1843 now causes the latter to be deemed the correct original spelling of the generic name. Despite universal attribution of the specific name *characias* to Bosc d'Antic (1784), this name is unavailable from that work and under Article 11.6.1 should be reattributed to Amyot & Serville (1843). To avoid confusion, however, the Commission is requested to validate the availability of *O. characias* under the authorship of Bosc d'Antic (1784).

Keywords. Nomenclature; taxonomy; COCCOIDEA; ORTHEZIIDAE; *Orthezia*; *Orthezia characias*; ensign scale insects.

1. [Bosc d'Antic] (1784, p. 173) named a new taxon of insect as *d'Orthezia-Characias* (sic) on the basis of a good description (p. 171) and good illustrations (Pl. I, figs. 1–3). From the title of the article, 'DESCRIPTION DE L'ORTHEZIA-CHARACIAS' (sic, p. 171; also given on p. 176, in the table of contents of the issue and on p. 497 in the table of contents of the volume, as '*Description de l'Orthezia-Characias*'), it is clear that there were two original spellings of the name, one with the definite article 'l', a common use in 1784, and one with the preposition 'd'. The paper, printed in the February issue of *Observations sur la Physique, sur l'Histoire Naturelle et sur les Arts* for 1784, however, was anonymous until the [Abbé d'Orthez], in the January 1785 issue of the same journal (p. 207), stated that the taxon was named after

him by M. d'Antic. Because no other authorship was included in both articles, the names Bosc d'Antic and Abbé d'Orthez are given in square brackets by applying Recommendation 51D of the Code. For a further discussion of the paper by the [Abbé d'Orthez] (1785) see para. 7. The first authors to use the combination *Orthezia characias* Bosc were Amyot & Serville (1843, pp. 621, 624) (see para. 4). From [Bosc d'Antic]'s (1784) stated intention to follow the example of 'Maître Linné' (p. 172), and from his statement on page 173, it is clear that he intended to name the insect in a binominal manner. This statement reads (in translation), 'It was discovered, according to the Baron de Servières, by the Abbé d'Orthez, who is observing Nature with success. We will join his name, which will form that of the genus, to that of the plant [i.e. *Euphorbia characias*] on which the insect lives, which will be that of the species'.

2. The inclusion of the preposition in the name of the taxon (from 'd'Orthez', the 'name' of the Abbé) cannot easily be dismissed as inadvertent although it could have been carelessness by Bosc d'Antic. Joining of the names of the genus and species by a hyphen, and capitalization of the specific name, must also be regarded as intentional since these features are found in both the title and text although the title is entirely in capitals, and convention at the time would have required an initial capital for the specific name. The hyphen is not being used 'to qualify the application of the name', so it cannot be dismissed under Article 5.3. There is no other provision in the Code concerning conjoined generic and specific names, so, despite the author's intentions; *d'Orthezia-Characias* (under either spelling) seems to be unavailable by reason of being a compound uninomen and not a binomen (Article 5.1). It would be most convenient to treat it as a generic name with no included species, in which case under Article 32.5.2 it would have to be emended, following First Reviser action under Article 24.2, perhaps to *Dortheziacharacias* or *Ortheziacharacias*. Welter-Schultes & Wieland (2012, p. 12), in their remarks on originally hyphenated generic names, claimed that 'the Code does not provide a regulation for how to treat compound genus-group names that were published as separate words connected by a hyphen'. Article 32.5.2 states, however, 'A name published with a . . . hyphen . . . , is to be corrected'. This mandate pertains to genus-group and family-group, not just species-group names, even though the explicit instructions in Article 32.5.2.3 to remove the hyphen only pertain to species-group names. Whatever correction might be envisioned for a hyphenated genus-group name is, in fact, irrelevant in the present case, because of the subsequent major change in spelling described in the next paragraph.

3. To our knowledge, the first authors to use *Orthezia* and *characias* as separated generic and specific names were Amyot & Serville (1843, pp. 621, 624) to whom both names might plausibly be attributed (see para. 4 below). The generic name *Orthezia*, never attributed other than to d'Antic, Bosc or Bosc d'Antic, 1784, together with the name of the purported type species *O. characias*, likewise so attributed, has been in use until the present day. Although it may have been regarded as a convention to associate the genus and species names, which were thus interpreted as separate words as Bosc d'Antic had intended, the original conjoined spelling has apparently remained unnoticed for almost 230 years, so neither the first nor any later usage of *Orthezia* qualifies as an emendation of the longer hyphenated name even if the original name is regarded as a genus, but it can be regarded as an incorrect

subsequent spelling (Article 33.3). Having soon come into universal usage (see citations below), *Orthezia* would now be regarded under Article 33.3.1 as the ‘correct original spelling’ of the generic name. To illustrate the general acceptance of *Orthezia* as a valid generic name and its attribution to [Bosc d’Antic], 1784, the following references may be cited: White (1877, p. 804), Douglas (1881, p. 176), Fernald (1903, p. 33), Gowdey (1921, p. 13), Danzig (1980, p. 103), Hodgson & Foldi (2006, p. 43), Kozár (2004, p. 322), Miller et al. (2005, p. 367), Morrison (1925, p. 98; 1952, p. 3) and Veà & Grimaldi (2012, p. 779). A list of over 125 additional references demonstrating the universal usage of *Orthezia* as a valid genus-group name has been provided to the Secretariat, and over 550 references mentioning the name can be found in the catalogue of ORTHEZIIDAE by Miller et al. (2005).

4. This argument cannot be applied to the specific name, however. As was noted above, the first authors to refer to this taxon afterwards and to use *characias* as a separated specific name from *Orthezia* were Amyot & Serville (1843, pp. 621, 624). Importantly, Amyot & Serville (1843, p. 620) recognised *Orthezia* under the authorship of Bosc while also relegating the species *Orthezia characias* Bosc, 1784 to the synonymy of *Aphis urticae* Linn. ‘SN. II. 733. 30’, which is Linnaeus (1767). *Aphis urticae*, however, was described earlier by Linnaeus (1758, p. 453). The nomenclaturally correct authorship of *characias* (and also of *Orthezia* if the argument given in para. 3 is rejected) appears to be Amyot & Serville, 1843. Although these authors explicitly proposed *characias* in the synonymy of another nominal species, before 1961 it was treated frequently as an available and valid name for a taxon, for example by Latreille (1807, p. 175), Westwood (1840, p. 118), Targioni Tozzetti (1868, p. 175), Signoret (1869, p. 872, 1875, p. 390), Fernald (1903, p. 33). As a result, under Articles 11.6.1 and 50.7, *characias* is available and attributable to Amyot & Serville (1843) although it has almost universally been attributed to [Bosc d’Antic], 1784. Additionally, *O. characias* has universally been regarded as the type species of *Orthezia*, by Cockerell (1902, p. 259) and by authors of major works on the genus since Fernald (1903, p. 33), such as Morrison & Morrison (1966, p. 139, (Miller et al., 2005, p. 367) and Kozár (2006, p. 322).

5. Amyot & Serville (1843, p. 619) erected the family-group name ORTHEZIDES for two genera, one being the genus *Orthezia*. This was emended to ORTHEZIIDAE by Enderlein (1914, p. 309) and is currently in use for the ensign scale insects. This family-group name has no available junior synonym.

6. Destructive agricultural pests were described in the genus *Orthezia* before a recent generic revision of the family ORTHEZIIDAE by Kozár (2004). *Orthezia insignis* Browne, 1887, p. 169 (currently *Insignorthezia insignis* (Browne), is a serious greenhouse pest worldwide and destructive to coffee and citrus in East Africa and South America (Bartlett, 1978, p. 136). *Orthezia praelonga* Douglas, 1891, p. 246 (currently *Praelongorthezia praelonga* (Douglas)) causes severe destruction to citrus in South America (Ebeling, 1959, p. 272; Kondo et al., 2013, p. 301). *Orthezia urticae* (Linnaeus, 1758) and its junior synonym *Orthezia characias* [Bosc d’Antic], 1784 have been mentioned in most works on the genus *Orthezia* cited above in Paragraph 3 and any change in nomenclature would cause severe disruption. It is for this reason that use of the plenary power is being sought to preserve the genus-group name *Orthezia* and the species-group name *characias*, both as dating from 1784 and authored by [Bosc d’Antic].

7. The title of the article by the [Abbé d'Orthez] (1785, p. 107) included the name *Coccus-characias*, a uninominal name. Furthermore, at the foot of page 107, the same author introduced the spelling *dorthesia-characias*, another uninominal name. Some later authors introduced the name *Dorthesia* as a genus-group name. Thus, Fabricius (1802, p. 311) under the name *Coccus characias*, listed *Dorthesia characias* Bosc, 1784, in synonymy with *Aphis urticae* Linnaeus. Latreille (1807, p. 175) described the genus *Dorthesia*, listing *Dorthesia characias* Bosc as the first species. The genus *Dorthesia* was treated as a synonym of *Orthezia* by Targioni Tozzetti (1868, p. 722), White (1874, p. 304) and Fernald (1903, p. 33). The genus-group name *Dorthesia* has not been accepted in scale-insect literature since. The genus-group name *Dorthezia* was introduced by Signoret (1869, p. 833) without any description. No matter which spelling of the genus-group name was used by these authors, the genus was always attributed to Bosc although his full name was Bosc d'Antic. As Douglas (1881) has stated, whatever name was adopted for the genus, the original name was restored by Amyot & Serville as according better with its derivation.

8. In the wide range of scale-insect literature, any other combination of authors and dates for the genus-group name *Orthezia* and the species-group name *characias* would cause confusion.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to rule that:
 - (a) the compound uninominal name with the two incorrect original spellings *Orthezia-Characias* [Bosc d'Antic], 1784 and *d'Orthezia-Characias* [Bosc d'Antic], 1784 is an available genus-group name, with the correct original spelling and authorship as *Orthezia* [Bosc d'Antic], 1784;
 - (b) the species-group name *characias* is available from [Bosc d'Antic] (1784, p. 173), despite its original combination in the uninominal name *Orthezia-Characias* or *d'Orthezia-Characias*;
- (2) to use its plenary power to set aside the provisions of Article 11.4 and declare the work [Bosc d'Antic, L.A.G.] 1784, 'Description de l'*Orthezia-Characias*' published in *Observations sur la Physique, sur l'Histoire Naturelle et sur les Arts*, vol. 24, pp. 171–173, pl. 1, figs. 2–4 to be available for nomenclatural purposes;
- (3) to place on the Official List of Generic Names in Zoology the name *Orthezia* [Bosc d'Antic], 1784 (gender: feminine), correct original spelling of *d'Orthezia-Characias* [Bosc d'Antic], 1784 or *Orthezia-Characias* [Bosc d'Antic], 1784, type species by monotypy *characias* [Bosc d'Antic], 1784, as published in the compound uninominals *Orthezia-Characias* and *d'Orthezia-Characias*, as ruled in (1)(a) above;
- (4) to place on the Official List of Specific Names in Zoology the name *characias* [Bosc d'Antic], 1784 (type species of *Orthezia* [Bosc d'Antic], 1784, as published in the compound uninominals *Orthezia-Characias* and *d'Orthezia-Characias*), as ruled in (1)(b) above;
- (5) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the following names:
 - (a) *Orthezia-Characias* [Bosc d'Antic], 1784, deemed, as ruled in (1) above, an incorrect original spelling of *Orthezia* [Bosc d'Antic], 1784;

- (b) *d'Orthezia-Characias* [Bosc d'Antic], 1784, deemed, as ruled in (1) above, an incorrect original spelling of *Orthezia* [Bosc d'Antic], 1784;
- (6) to place on the Official List of Works Approved as Available for Zoological Nomenclature the work [Bosc d'Antic, L.A.G.], 1784, 'Description de l'Orthezia-Characias' published in *Observations sur la Physique, sur l'Histoire Naturelle et sur les Arts*, vol. 24, pp. 171–173, pl. 1, figs. 2–4.

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